

among the foliage. They descend to feed on the banana or abaca inflorescences. According to the natives they have been seen in the lowlands among coconut groves, where they feed among the flowers.

Oxpeckers *Buphagus* spp. on game animals at night

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INTRODUCTION

The two species of oxpecker, the Yellow-billed *Buphagus africanus* Linn. and the Red-billed *B. erythrorhynchus* (Stanley), feed entirely on ticks and flies on the hides of game and domestic animals or on wounds on these animals. Oxpeckers also sun themselves and copulate on the bodies of their hosts, and line their nests with their hair. Discussion is to be found in Attwell (1966) and Moreau (1964). What apparently has not been appreciated hitherto is that the symbiosis exhibited by these birds is even more extensive in that some oxpeckers at least roost on their hosts at night.

Previous authors have mentioned that oxpeckers roost colonially in trees, holes in trees and reed beds (e.g. McLachlan and Liversidge, 1957 and van Someren, 1951). However, in July 1966 I received a report from two colleagues in the Zambia Game Department, W. R. Bainbridge and R. D. Rohwer Junr., of oxpeckers on buffalo *Syncerus caffer* Sparrman at night. This was near M'fuwe in the Luangwa Valley National Park in Zambia, about 13° 03' S., 31° 47' E., and was at about 0300 hours on a pitch black night. The species of oxpecker was not determined and unfortunately the behaviour of the birds was not noted, as the observers did not realise the value of this record. Consequently I have searched specially for oxpeckers on game animals at night in the Luangwa Valley National Park and adjacent areas.

OXPECKER NOCTURNAL HOST PREFERENCES

Between August 1966 and December 1967 I observed oxpeckers frequently on buffalo at night but never on other game animals. On all but one occasion that I was able to identify the oxpeckers specifically they were *B. africanus*. The one record of *B. erythrorhynchus* was of two birds, and at least ten others unidentified, on a large herd of buffalo in August 1966. By day *B. africanus* is much the commoner species on buffalo in the Luangwa Valley (personal observation, and see Attwell, 1966). I have never found nor heard of oxpeckers roosting in trees in that area, although they may do so unnoticed.

The bulk of the oxpeckers in the Luangwa Valley are to be found by day on buffalo, hippo *Hippopotamus amphibius* Linn., black rhino *Diceros bicornis* Linn., zebra *Equus burchelli* Gray, impala *Aepyceros melampus* Lichtenstein and kudu *Tragelaphus strepsiceros* Pallas. Of these species more than 20% of the groups encountered by day will have oxpeckers in attendance. Buffalo, hippo and impala are the only ones to be seen commonly at night; hundreds of each species have been observed, but oxpeckers have been found only on buffalo. It should be noted that the many oxpeckers that utilise the abundant hippo and impala are nearly all *B. erythrorhynchus*. The host preferences of the two species of oxpecker are not fully understood (Attwell, 1966 and Dowsett, in prep.), but possibly

nocturnal habits differ. Counts of oxpeckers by day and by night on the same groups of buffalo suggest that on small groups up to half the numbers of oxpeckers seen by day are present at night, while a smaller proportion of the oxpeckers on large herds can be found at night.

Correspondence with observers in other parts of Africa suggests that oxpeckers are only occasionally to be found on game animals at night. Recent development of many game reserves and National Parks, and the culling of game animals at night in some areas, has resulted in more nocturnal travelling by game department staff. Nonetheless, in spite of much time spent hunting hippo in the Murchison Falls National Park in Uganda I. S. C. Parker has only once seen oxpeckers at night, namely about 12 on one of a group of a dozen giraffe *Giraffa camelopardalis* (Linn.). These would probably be *B. africanus*, the only species recorded from that area (Attwell, 1966).

In Tanzania, in the latter part of 1967, Dr. H. F. Lamprey found oxpeckers frequently on a small group of buffalo at night near Banagi, Western Serengeti.

In Rhodesia there are a number of records of oxpeckers at night from the Wankie National Park. J. L. Anderson has seen them once on a moonlit night on kudu. B. Austin has seen them during counts of game visiting waterholes during times of full moon. He has noted them on giraffe, buffalo and eland *Taurotragus oryx* (Pallas) and further tells me that O. Bristow has seen them at night on his domestic herd of eland at Beit Bridge. In the Zambezi Valley V. J. Wilson has observed oxpeckers on black rhino before first light. It is not known to which species of oxpecker these records refer.

OXPECKER NOCTURNAL BEHAVIOUR

In the Luangwa Valley I have seen oxpeckers on buffalo only on dark nights, but this may be because buffalo can then be dazzled more easily with a spot-light, and thus observed closely. The Wankie National Park reports were at times of full moon. I have seen oxpeckers on buffalo in any type of vegetation, from dense *Combretum obovatum* thicket to open tree savanna. I have seen them at times throughout the night.

Although buffalo are very active and feed extensively at night, the oxpeckers seem generally inactive and are probably roosting. I did once see two *B. africanus* feeding actively on a buffalo at 2000 hours on a dark night, but the birds feed extensively by day and there seems no reason why they should have to feed at night also. Parker reports that when a light was shone onto oxpeckers on a giraffe they appeared to wake up, seemed startled and some moved round to the dark side of the animal. They made no attempt to fly away. Lamprey considers the birds seen by him on buffalo were not feeding, and Austin says birds seen by him showed little activity and never fed nor alighted from their hosts to drink at waterholes. Usually as soon as a light is shone on oxpeckers on buffalo at a range of only a few yards they adopt their 'Penguin' attitude (see van Someren, 1951) often calling loudly. Watched at longer ranges they merely cling to the side of the buffalo and appear to be inactive.

Two former colleagues D. S. G. Macleod and I. P. A. Manning, whilst employed on game culling in the Luangwa Valley, reported that oxpeckers had been found on the carcasses of buffalo killed at night by a brain-shot

while dazzled by a lamp. The oxpeckers were disinclined to leave the bodies of the buffalo and one was caught easily by hand when dazzled with a torch. The observers considered the oxpeckers had been on the buffalo when shot, staying on the fallen animals, and not flying onto the carcasses afterwards. Unfortunately changes in cropping operations in the area prevented further study.

DISCUSSION

It is clear that oxpeckers will not infrequently roost on game animals, especially buffalo. As Capt. C. R. S. Pitman has pointed out (*in litt.*) it might be more to the advantage of oxpeckers to stay with a wide-ranging species such as the buffalo, rather than go to roost and then have to search for the animals again next day. Hippo, on the other hand, return to the same stretch of river or lagoon after feeding on land at night, and the same or nearby groups can be found readily by oxpeckers the next day. Similarly there is no need for oxpeckers to roost on impala (presumably less comfortable than in a tree) because these antelope are plentiful on the ground and easy to find, although a particular group might be anywhere within a square mile. This presupposes a preference for a particular species of host by the individual oxpecker for which there is evidence (Dowsett, *in prep.*). Roosting on animals at night might be expected to be more common in areas where game is sparse. Although Pitman (*in litt.*) says this habit is not unexpected, it is surprising it has not been remarked upon before. In the past, when buffalo were widespread, hunters must often have heard those animals at night and hunted them then. Oxpeckers call freely when buffalo are disturbed, yet none of my colleagues in the Zambia Game Department nor professional hunters in the Luangwa Valley, all with many years hunting experience, had seen oxpeckers or heard them on game at night. It may be this is a recently acquired habit.

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SUMMARY

Buphagus africanus and *B. erythrorhynchus* occasionally roost on game animals at night. Buffalo are especially favoured, and giraffe, kudu, eland and black rhino are also recorded as nocturnal hosts. Hitherto oxpeckers have been considered to roost entirely in trees or reed beds. They have only once been noted feeding at night. Roosting on an animal that wanders widely would obviate the need to search for hosts anew each day.

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